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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/624,929	07/23/2003	Takanori Maeda	041514-5102-01	6766
9629	7590	03/24/2005	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			DINH, JACK	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/624,929

Applicant(s)

MAEDA ET AL.

Examiner

Jack Dinh

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 09/739,646.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>0703</u> .  | 6) <input checked="" type="checkbox"/> Other: <u>DETAILED ACTION</u> .      |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 101*

A rejection based on double patenting of the “same invention” type finds its support in the language of 35 U.S.C. 101 which states that “whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title”. Thus, the term “same invention,” in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

1. Claims 9-16 of the instant application are rejected under 35 U.S.C. 101 as claiming the same inventions as claims 1-8, respectively, of prior U.S. Patent No. 6,628,599 (e.g. ‘599). Claims 9-16 are rejected as being taken verbatim from claims 1-8 (respectively) of ‘599. This is a statutory double patenting rejection.

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome only by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

### *Claim Rejections - 35 USC § 103*

Art Unit: 2873

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kowarz et al. (US Patent 6,335,831) in view of Wang et al. (US Patent 6,211,993).

Regarding claim 1, 3 and 4, Kowarz (figure 10, not drawn to scale) is interpreted as disclosing a variable optical element comprising a reference medium **58**, a first area **55b** and a second area **64b** being formed on the top surface of the reference medium, wherein optical changes are imparted on the wavefront of light made incident onto the first and the second areas to reflect the light based on changes in optical characteristics of the first and the second areas caused by electrostatic force, wherein diffraction efficiency is changed for the light made incident on the first and the second areas based on phase changes in the first and second areas (col. 8, lines 17-54). Kowarz is interpreted as disclosing all the claimed limitations except for a piezo-electric medium layer on the first area. However, Kowarz further discloses that it is clear that a person skilled in the art can imagine other ways for actuating the variable optical element, for example, thermal actuation, piezoelectric actuation or any combination (col 6, lines 62-67). Within the same field of endeavor, Wang (figure 1) is interpreted as disclosing the teaching of a piezoelectric medium layer **104** that changes in the thickness as a result of a piezoelectric effect corresponding to voltages externally applied (col. 5, lines 12-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a piezo-

Art Unit: 2873

electric medium layer on the first area, for the purpose of increasing the thickness of the first area so the heights of the first and second area are equal (see figure 9) to create diffraction patterns.

Regarding claim 2, Kowarz (figure 10) is interpreted as further disclosing a plurality of pairs of the first and the second areas are formed one after another in a cyclic manner.

Regarding claim 4, 7 and 8, Kowarz (figure 10, not drawn to scale) is interpreted as disclosing a variable optical element comprising a first area **55b** and a second area **64b** that are different in thickness (height 55b and 64b), wherein optical changes are imparted on the wavefront of light made incident onto the first and the second areas to reflect the light based on changes in optical characteristics of the first and the second areas caused by electrostatic force, wherein diffraction efficiency is changed for the light made incident on the first and the second areas based on phase changes in the first and second areas (col. 8, lines 17-54). Kowarz is interpreted as disclosing all the claimed limitations except for a piezo-electric medium layer on the first area. However, Kowarz further discloses that it is clear that a person skilled in the art can imagine other ways for actuating the variable optical element, for example, thermal actuation, piezoelectric actuation or any combination (col 6, lines 62-67). Within the same field of endeavor, Wang (figure 1) is interpreted as disclosing the teaching of a piezoelectric medium layer **104** that changes in the thickness as a result of a piezoelectric effect corresponding to voltages externally applied (col. 5, lines 12-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a piezo-electric medium

Art Unit: 2873

layer on the first area, for the purpose of increasing the thickness of the first area so the heights of the first and second area are equal (see figure 9) to create diffraction patterns.

Regarding claim 5, Kowarz (figure 10) is interpreted as further disclosing a plurality of pairs of the first and the second areas are formed one after another in a cyclic manner.

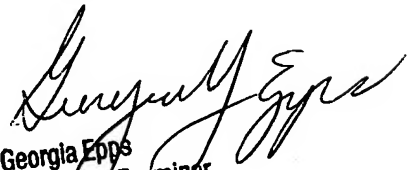
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Dinh whose telephone number is 571-272-2327. The examiner can normally be reached on M-F (9:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jack Dinh

  
Georgia Epps  
Supervisory Patent Examiner  
Technology Center 2800